

Title (en)

Method and apparatus for determining air mass in an engine.

Title (de)

Verfahren und Vorrichtung zur Bestimmung der Luftmasse in einem Motor.

Title (fr)

Procédé et dispositif pour déterminer la masse d'air dans un moteur.

Publication

EP 0420442 B1 19931027 (EN)

Application

EP 90309917 A 19900911

Priority

US 40937789 A 19890919

Abstract (en)

[origin: US4920789A] A method and means are described for determining the mass of air available for combustion within a cylinder of a crankcase scavenged two-cycle engine, without the use of a mass-air flow sensor. This is achieved by estimating the mass of air under compression within a crankcase chamber, prior to its transfer to a cylinder combustion chamber during the engine operating cycle. The estimate for air mass is based upon the polytropic behavior of a portion of the crankcase compression process, and the pressure, volume and temperature of the air at two predetermined engine rotational positions during the polytropic phase of compression. The volume of the air within the crankcase chamber is determined as a function of engine rotational angle, with crankcase air temperature being derived as a function of intake air temperature. Air pressure during the polytropic phase of compression is sensed with a pressure sensor disposed within the crankcase chamber. The estimate for air mass is corrected to account for air leakage and imperfect transference of the air between the crankcase and combustion chambers.

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CPC (source: EP KR US)

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Cited by

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